

Teaming up for Cheaper Energy from Ocean Tides



Oceanographers at [Bangor University's School of Ocean Sciences](#) are launching a major project to study tidal turbulence at the Menai Strait in Wales. The oceanographers have been awarded two major grants totalling GBP230,000 for their research, which is aimed at helping to improve the design and operation of tidal energy capture devices.

Ocean energy represents a vast and largely untapped renewable energy resource. The global market for marine energy has been estimated to be worth around GBP76 billion between 2016 and 2050, according to numbers previously released by the Carbon Trust.

Two Subsequent Studies

The tidal turbulence project will be executed as two related projects supported by grants from the Engineering and Physical Sciences Research Council (EPSRC) and the Knowledge Economy Skills Scholarships (KESS2).

The first project will focus on the collection of novel turbulence data in the Menai Strait, and also further offshore to the North-West of Anglesey. This effort will further develop the expertise in acoustic and optical observation techniques pioneered at Bangor University.

The second project will focus on advancing the measurement of turbulence in energetic tidal flows, with researchers also working in the natural laboratory of the Menai Strait.

Improving the Assessment of Risks

The project links the Bangor team with oceanographic instrument manufacturer Nortek and marine renewable energy survey company Partrac. This team aims to improve the assessment of risks associated with turbulence and so help reduce development costs, leading to cheaper energy from the tides.

The findings from this project will be integrated into Nortek's product development. During the past years, the need to understand how tidal turbines could withstand very strong currents required Nortek to develop new measurement capabilities.